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D35,589

Jeff Lloyd Patent Attorney

PRELIMINARY AMENDMENT
Patent Application
Docket No. M12C1FDF3D2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner	:	Not yet assigned
Art Unit	:	Not yet assigned
Applicant(s)	:	David L. Edwards, Corinna Herrnstadt, Edward R. Wilcox, Siu-Yin Wong
Serial No.	:	Not yet assigned
Filed	:	December 27, 2001
For	:	Processfor Altering the Host Range of *Bacillus thuringiensis* Toxins, and Novel Toxins Produced Thereby

Assistant Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT UNDER 37 CFR §1.121

Sir:

Please amend the application identified above as follows:

In the Drawings:

Please add Figures 5 - 12 as drawings in the application. These drawings are attached hereto. Entry and approval of these drawings is respectfully requested.

In the Specification:

Please delete the first paragraph of page 1 beneath the heading "CROSS-REFERENCE TO A RELATED APPLICATION" wherein references to ancestral applications are set forth, and replace it with the following:

This is a continuation of application Serial No. 09/405,788, filed on September 27, 1999; which was a continuation of application Serial No. 08/580,781, filed on December 29, 1995, now abandoned; which was a continuation of application Serial No. 08/420,615, filed on April 10, 1995,

now abandoned; which was a continuation of application Serial No. 08/097,808, filed on July 27, 1993, now abandoned; which was a divisional of co-pending application Serial No. 07/980,128, filed on November 23, 1992, now abandoned; which was a continuation of application Serial No. 07/803,920, filed on December 6, 1991, now abandoned; which was a continuation of application Serial No. 07/356,599, filed on May 24, 1989, now abandoned; which was a continuation of application Serial No. 06/904,572, filed on September 5, 1986, now abandoned; which was a continuation-in-part of application Serial No. 06/808,129, filed on December 12, 1985, now abandoned.

On page 3, line 20, please insert the following:

FIGURE 5 is a table showing the nucleotide sequence of plasmid pEW3 encoding chimeric toxin.

FIGURE 6 is a table showing the deduced amino acid sequence of chimeric toxin produced by plasmid pEW3.

FIGURE 7 is a table showing the nucleotide sequence of plasmid pEW4 encoding chimeric toxin.

FIGURE 8 is a table showing deduced amino acid sequence of chimeric toxin produced by plasmid pEW4.

FIGURE 9 is a table showing nucleotide sequence of plasmid pACB-1 encoding chimeric toxin ACB-1.

FIGURE 10 is a table showing deduced amino acid sequence of chimeric toxin ACB-1.

FIGURE 11 is a table showing nucleotide sequence of plasmid pSYW1 encoding chimeric toxin SYW1.

FIGURE 12 is a table showing deduced amino acid sequence of chimeric toxin SYW1.

On Page 3, line 21, before "Detailed Disclosure of the Invention" insert the following:

Brief Description of the Sequences

SEQ ID NO. 1 is the nucleotide sequence of plasmid pEW3 encoding the chimeric toxin.

SEQ ID NO. 2 is the deduced amino acid sequence of the chimeric toxin encoded by the nucleotide sequence of SEQ ID NO: 1.

SEQ ID NO. 3 is the nucleotide sequence of plasmid pEW4 encoding the chimeric toxin.

SEQ ID NO. 4 is the deduced amino acid sequence of the chimeric toxin encoded by the nucleotide sequence of SEQ ID NO: 3.

SEQ ID NO. 5 is the nucleotide sequence of plasmid pACB-1 encoding the chimeric toxin ACB-1.

SEQ ID NO. 6 is the deduced amino acid sequence of the chimeric toxin encoded by the nucleotide sequence of SEQ ID NO: 5.

SEQ ID NO. 7 is the nucleotide sequence of plasmid pSYW1 encoding chimeric toxin SYW1.

SEQ ID NO. 8 is the deduced amino acid sequence of the chimeric toxin encoded by the nucleotide sequence of SEQ ID NO: 7.

SEQ ID NO. 9 is the 151 bp synthetic DNA used to replace the 151 bp AccI/Sac I fragment from pEW3, which caused a conversion of the Asp to Asn at position 411, and Gln to Glu at position 425 of pEW3.--

Please substitute the paragraph found on page 22, lines 12-25 of the specification with the following paragraph:

Plasmid pEW3, NRRL B-18034, was modified by altering the coding sequence for the toxin. The 151 bp DNA fragment bounded by the *Acc*I restriction site at nucleotide residue 1199 in the coding sequence, and the *Sac*I restriction site at residue 1350 were removed by digestion with the indicated restriction endonucleases using standard procedures. The removed 151 bp DNA fragment was replaced with the following synthetic DNA oligomer by standard procedures:

A TAC AGA AAA AGC GGA ACG GTA GAT TCG CTG AAT GAA
ATA CCG CCA CAG AAT AAC AAC GTG CCC CCG AGG CAA
GAA TTT AGT CAT CGA TTA AGC CAT GTT TCA ATG TTT
AGA TCT GGC TTT AGT AAT AGT AGT GTA AGT ATA ATA

AGA GCT (SEQ ID NO: 9).

Page 34: Delete Table 1. Table 1 is being substituted as Figure 5.

Page 35: Delete Table 1A. Table 1A is being substituted as Figure 6.

Pages 36 and 37: Delete Table 2. Table 2 is being substituted as Figure 7.

Page 38: Delete Table 2A. Table 2A is being substituted as Figure 8.

Pages 39 and 40: Delete Table 3. Table 3 is being substituted as Figure 9.

Page 41: Delete Table 3A. Table 3A is being substituted as Figure 10.

Pages 42 and 43: Delete Table 4. Table 4 is being substituted as Figure 11.

Page 44: Delete Table 4A. Table 4A is being substituted as Figure 12.

In the Claims

Please delete claims 1-60.

Please add the following new claim:

1. A descendant recombinant DNA sequence encoding a modified *B.t.* crystal protein toxin which has an altered host range or increased toxicity against at least one target insect host, wherein said recombinant DNA sequence is produced by the process of:

(a) replacing at least a part of a variable region of a first parent DNA sequence encoding an active *B.t.* crystal protein toxin with at least a part of a variable region of at least one other parent DNA sequence encoding a different active *B.t.* crystal protein toxin to obtain a recombinant DNA sequence encoding a modified *B.t.* crystal protein toxin which is different from any of said crystal protein toxins encoded by said parent DNA sequences;

(b) producing said modified *B.t.* crystal protein toxin from said recombinant DNA sequence;

(c) assaying said modified *B.t.* crystal protein toxin to verify whether said modified *B.t.* crystal protein toxin has an altered host range or increased toxicity against at least one target insect host as compared to any of said crystal protein toxins encoded by said parent DNA

sequences; whereby, if verified, said recombinant DNA sequence is identified as one encoding a modified *B.t.* crystal protein toxin having an altered host range or increased toxicity; and

(d) obtaining additional copies of said recombinant DNA sequence, whereby descendant recombinant DNA sequences are obtained.

Remarks

This amendment is made to conform the application with the provisions of 37 CFR §1.821 through 1.825 and to insert the correct ancestral parentage into the application. I hereby certify that no new material is being added by this submission.

The Commissioner is hereby authorized to charge to Deposit Account 19-0065 any fees under 37 CFR 1.16 or 1.17 as required by this paper.

Applicants invite the Examiner to call the undersigned if clarification is needed on this amendment.

Respectfully submitted,

Jeff Lloyd
Patent Attorney
Registration No. 35,589
Phone No.: 407-426-7500
Address : 2421 N. W. 41st Street, Ste. A-1
Gainesville, Florida 32606

JL/gm
Encls.

Marked Up Replacement Paragraphs(s) for Specification (page 1)

~~This is a continuation-in-part of our copending application Serial No. 808,129, filed on December 12, 1985~~. This is a continuation of application Serial No. 09/405,788, filed on September 27, 1999; which was a continuation of application Serial No. 08/580,781, filed on December 29, 1995, now abandoned; which was a continuation of application Serial No. 08/420,615,filed on April 10, 1995, now abandoned; which was a continuation of application Serial No. 08/097,808, filed on July 27, 1993, now abandoned; which was a divisional of co-pending application Serial No. 07/980,128, filed on November 23, 1992, now abandoned; which was a continuation of application Serial No. 07/803,920, filed on December 6, 1991, now abandoned; which was a continuation of application Serial No. 07/356,599, filed on May 24, 1989, now abandoned; which was a continuation of application Serial No. 06/904,572, filed on September 5, 1986, now abandoned; which was a continuation-in-part of application Serial No. 06/808,129, filed on December 12, 1985, now abandoned.

Marked Up Replacement Paragraphs(s) for Specification (page 3, line 20)

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Marked Up Replacement line for Specification (page 22, line 25)

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ATA CCG CCA CAG AAT AAC AAC GTG CCC CCG AGG CAA
GAA TTT AGT CAT CGA TTA AGC CAT GTT TCA ATG TTT
AGA TCT GGC TTT AGT AAT AGT AGT GTA AGT ATA ATA
AGA GCT (SEQ ID NO: 9).